

REMARKS

I. Status of the Claims

At the time of the Action, Claims 1-16 were pending. All pending claims stand rejected under Section 103(a). These rejections are addressed below.

II. The Section 103(a) Rejections

The Action rejects Claims 1, 3, 6-8, 10 and 13-15 under Section 103(a) over U.S. Patent No. 5,547,444 to Huang (Huang). Claims 1, 2, 5-10 and 12-16 stand rejected under Section 103(a) over U.S. Patent No. 5,304,107 to Jones (Jones) in view of Huang. Claims 4 and 11 stand rejected under Section 103(a) based on Jones and Huang in view of U.S. Patent No. 5,565,002 to Rawls et al. (Rawls). These rejections are addressed hereinbelow.

A. Rejections Based on Huang

The Action states that Huang discloses:

A frame (10), a seat assembly (21), a movement arm (44) pivotally attached to the frame and moveable along a stroke path between a forward and rearward position, a resistance imparting unit (60) operatively connected to the movement arm, a pair of handles (sleeves on arms in fig.1), a pair of extension members (54) attached to the handles so that the handles may rotate longitudinally (handles are sleeves which can rotate), wherein the extension members are attached to the movement arm such that each extension member is free to at least partially rotate relative [to] the movement arm in . . . vertical, longitudinal and transverse axes, and the extension members are of sufficient length and the extension members are attached to the movement arm so that the handles can be separated by a distance. Huang does not disclose the exact distance that the handles can be spread apart, however in figure 4, Huang teaches that the extension members may be rotated apart. It appears that the arms are capable of moving apart at least 24 inches. The feature of having the handles distanced 24 inches is a design consideration.

The Action at paragraph 2. Based on these characterizations, the Action concludes that Claim 1 is unpatentable over Huang. The Action similarly rejects Claim 10 by stating that the recited length of the extension arm is inherent in the Huang illustrations.

In response, Applicants must disagree with at least certain of the characterizations of the Huang device set forth in the Action. First, Applicants disagree that the relationship between the "movement arm 44" and the "extension members 54" of Huang meets the recitations of Claims 1 and 10. These claims recite that the extension members "are attached to the movement arm such that each extension member is free to at least partially rotate relative to the movement arm about vertical, longitudinal and transverse axes." This relationship is exemplified in the present specification by the ball joint connection 70 between the extension rod 72 and the movement arm 52. As stated in the specification, "[t]ypically, the extension rod 72 can rotate about 270 degrees about the transverse axis, about 50 to 120 degrees about the longitudinal axes, and about 50 to 120 degrees about the vertical axis." See the specification at page 7, lines 8-10. In contrast, the rock rods 54 of Huang are attached to insertion tubes 51 via pivots 55 that enables the rock rods 54 to pivot about a longitudinal axis. However, the insertion tubes 51 are fixed relative to a connection rod 42, and the connection rod 42 is fixed relative to the "second support rod" 44 that is cited in the Action as the "movement arm." Thus, the rock rods 54 pivot relative to the second support rod 44 only about the longitudinal axis of the machine, and do not rotate relative to the second support rod 44 relative to either of the transverse and vertical axes.¹ As such, Huang fails to meet either of these elements of Claims 1 and 10.

Second, although the Action states that the sleeves (unnumbered in Huang) that are mounted on the ends of the rock rods 54 qualify as "handles" that are "free to rotate about a longitudinal axis of the extension members," Applicants submit that this is not clearly the case. In fact, Applicants submit that it is far more likely that these "sleeves" are simply cylindrical caps that are mounted via an interference fit over the ends of the rock rods 54 and, therefore, are not free to rotate relative thereto. Applicants' position is based on the fact that these components are not numbered and are never mentioned in the text of Huang, although virtually every other

¹ Applicants concede that the rock rods 54 rotate relative to the frame of the machine about the transverse axis of the machine (when an exerciser performs a rowing motion with the rock rods); however, in this motion the rock rods 54 do not rotate relative to the second support rod 44 that the Action cites as the "movement arm," but instead move in unison with the second support rod 44.

moving part is numbered and described in Huang. Also, if the sleeves were free to rotate about the rock rods 54, they would likely include some component (a rim, a stop ring, or the like) that would prevent them from being slipped off of the ends of the rock rods 54, and nothing of this sort is illustrated or described. As such, Applicants respectfully submit that the characterization of these sleeves is incorrect, and that this element of Claims 1 and 10 is also absent from Huang.

Applicants further submit that Huang fails to suggest the performance advantages that can be achieved with the recited configuration. In short, a rowing exercise machine of the present invention can enable an exerciser to place his hands at different heights (because of the ability of each extension member to rotate relative to the movement arm about the transverse axis), at different distances from each other (because of the ability of each extension member to rotate about the vertical axis), and in different orientations, such as palms up, palms down, and palms facing each other (because of the ability of each extension member to rotate about the longitudinal axis and the ability of the handle to rotate relative to the longitudinal axis of the extension member). The ability to place the hands in these different positions and orientations can enable the machine to provide the exerciser with many different exercise options, each of which can exercise different muscles. In contrast, the only variation the Huang machine seems to provide is a slight separation of the hands; Huang suggests none of the other capabilities of the machines recited in Claims 1 and 10.

To summarize, Applicants respectfully submit that (a) multiple elements of Claims 1 and 10 are absent from Huang, (b) Huang fails to suggest the inclusion of these absent elements, and (c) Huang fails to recognize the performance advantages that are achievable with the recited machine. As such, Applicants respectfully submit that it would not have been obvious to the ordinarily skilled artisan to conceive the machines recited in Claims 1 and 10 based in the teachings of Huang, and respectfully requests that the rejections of Claims 1 and 10 and claims depending therefrom under Section 103(a) based on Huang be withdrawn.

B. The Rejections Based on Jones in View of Huang

In rejecting Claims 1, 2, 5-10 and 12-16 based on Jones in view of Huang, the Action states that:

Jones discloses a frame, a seat assembly (10) attached to the frame, a movement arm (47) pivotally attached to the frame [and] movable along a longitudinal stroke path, a resistance imparting unit (51) operatively connected to the movement arm to provide resistance to the movement arm as it moves from the forward position to the rearward position, a pair of handles (48), a pair of extension members (45, 46) each of which is attached to a respective handle such that each handle is free to rotate about a longitudinal axis.

The Action at paragraph 11. The Action concedes that Jones fails to disclose extension members that "are free to partially rotate about axes." The Action then cites Huang for the disclosure of a rowing machine with extension members that are "free to partially rotate about an axis, citing that it is advantageous to provide variety in exercise." *Id.* The Action then concludes that the combination of these references would render the claimed subject matter obvious under Section 103(a).

In response, Applicants note that Jones discloses a relatively common type of rowing machine, in which parallel plates 47 are pivotally attached to the frame, arms 45 and 46 are fixed to the parallel plates 47, and handlebars 48 are pivotally attached to the arms 46, 46 such that they pivot about an axis that is transverse to both the arms 45, 46 and to the machine generally. As such, the joint between the parallel plates 47 and the arms 45, 46 (which are cited as meeting the recitations of "movement arm" and "extension members", respectively), is a fixed joint, not a pivot. Thus, Jones fails to meet the recitation in Claims 1 and 10 that the movement arm be attached to the extension members so that the extension members are free to rotate at least partially about three axes. Moreover, Applicants submit that Jones fails to disclose handles that rotate about a longitudinal axis of the extension members, because it is clear that the handlebars 48 of Jones rotate about the pins shown in broken line in **Figure 2** of Jones; these pins define an axis that is perpendicular to the longitudinal axis of the arms 45, 46.

As discussed above in Section II.A, Huang fails to disclose any of elements of Claims 1 and 10 that are identified immediately above as being absent from Jones. Consequently, Huang cannot overcome the deficiencies of Jones. Like Huang, Jones also fails to suggest the improved performance that can be achieved with the machines recited in the claims. As a

result, Applicants respectfully submit that the rejections of Claims 1, 10 and claims depending therefrom based on Jones and Huang should be withdrawn.

III. New Claims

New Claims 17-24 are proffered for entry and examination. Claim 17 recites, *inter alia*, that the joints between the movement arm and the extension members are ball joints. This configuration can enable the partial three-axis rotation between these components that, as described above, can provide the exerciser with tremendous variety in exercise. The only cited reference that discloses a ball joint is Rawls, which is directed to a machine that simulates the paddling of a kayak and includes a ball joint on a horizontally disposed movement arm. There is very little similarity between the exercise stroke of a rowing machine and the exercise stroke of a kayak machine; very different paths are followed by the movement arm, and different muscles are employed. There is absolutely no suggestion in Rawls that the ball joint employed therein would be useful in a machine that simulates a rowing motion rather than a kayak stroke. Further, the ball joint of Rawls is included to permit the movement arm to move in the "Figure-8" motion of a kayak paddle, whereas the ball joint in exercise machines of the present invention enables the exerciser to place his hands at different heights and separation distances; thus, the purposes of these two ball joints are quite different. Accordingly, Applicants respectfully submit that the subject matter of new Claim 17 and Claims 18-24 that depend therefrom are free of the cited art.

In addition, Applicants proffer Claims 25-32 for entry and examination. Claim 25 recites, *inter alia*, that each handle is free to rotate about a longitudinal axis of its respective extension member, the longitudinal axis being generally parallel with the stroke path. With a rowing exercise machine of this configuration, the exerciser is free to perform the rowing movement with his hands in a variety of orientations, including palms facing up, palms facing down, and palms facing each other. The recited configuration is clearly not present either of the devices of Huang or Jones. Even if the sleeve or cap of the Jones device does rotate about the rock rod 54 (a point that Applicants dispute), it does not rotate about an axis that is generally parallel to the stroke path. The handlebars 48 of the Jones device rotate about a transverse axis that is perpendicular to the stroke path of the machine. Thus, neither of these references discloses this recited element, nor do they suggest the improved versatility that this

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element can provide. As such, Applicants respectfully submit that Claim 25 and Claims 26-32 that depend therefrom are free of the cited art.

III. Other Considerations

Applicants wish to bring to the Examiner's attention co-assigned and co-pending U.S. Patent Application Serial No. 09/886,786, also filed June 21, 2001 (the '786 application). The present application was cited in a provisional obviousness-type double patenting rejection in the prosecution of the '786 application; thus, although the '786 application does not qualify as prior art to the present application, Applicants wish to make the Examiner aware of its existence.

IV. Conclusion

Inasmuch as all of the outstanding issues raised in the Action have been addressed, Applicants respectfully submit that the application is in condition for allowance, and request that it be passed to allowance and issue.

Respectfully submitted,


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